

For PACTS Appendix on Impacts of Climate Change:

From: Climate Change and Transportation in Maine *Impacts on Transportation*

These anticipated changes in climate will impact Maine's transportation systems in a number of ways. Many of these projected impacts already occur today with noticeable frequency (Frumhoff et al., 2006); however, these events and consequences are expected to become more commonplace and more exacting in the near future. While no specific timetable can be set for when each impact will reach a tipping point in terms of directly affecting transportation operations to an extreme degree, all are expected to be prevalent by the end of this century.

- The current infrastructure will be subjected to longer periods of intense heat that may accelerate the degradation of structural integrity; e.g., increased rutting on pavement.
- Tourism-related traffic is likely to increase for two reasons: (1) the summer season in Maine will last longer; and (2) as temperatures rise in major cities and southern regions of the country, more people will seek to escape the oppressive heat by traveling to places with relatively more moderate climates, such as Maine's coastal areas.
- Management practices for snow and ice removal will need to adapt to shorter, milder and wetter winters as more precipitation falls as rain and less as snow.
- The number of road closures due to flooding and washouts will rise, as will the potential for extreme incidents of erosion at project sites as heavy rain events take place more frequently.
- Sea level rise will pose numerous threats, including: (1) inundation of low-lying coastal infrastructure; (2) increased beach and coastline erosion; and (3) higher tides in combination with severe storms will increase the cost and occurrence of natural disasters (e.g. Patriot's Day Storm 2007 which caused \$31.5 million in damage to roads alone (Gallagher, 2008)).
- Potential barriers to predicted wildlife migration corridors (e.g. roads that fragment essential wildlife habitat; culverts that bar fish passage) may be subjected to more stringent environmental regulations as more species sensitive to climate change are listed as threatened or endangered.
- Current regulatory and permitting burdens in relation to species that are already listed as threatened or endangered species may increase as climate change places additional stress on those species as Maine becomes fringe habitat.